

Claims

[c1] 1. A structural brace apparatus adapted to provide flexible support between a primary building component and a secondary building component, the primary building component having X axis and Y axis deflections relative to the secondary building component, comprising:

(a) a first support arm having a longitudinal axis, said first support arm extending from and adapted to be secured to the primary building component, the first support arm longitudinal axis being positioned at an intermediate angle between the primary building component X axis and Y axis deflections; and

(b) a second support arm extending from and adapted to be secured to the secondary building component, said second support arm has a slidable engagement with said first support arm for reciprocative movement substantially parallel to the first support arm longitudinal axis, the reciprocative movement is relative to said first support arm, wherein said structural brace apparatus is operative to reduce transmission of the X and Y axis deflections from the primary building component to the secondary building component.

- [c2] 2. A structural brace apparatus according to claim 1 wherein said slidable engagement further comprises a retainer to prevent said first support arm and said second support arm from axially disengaging from one another in at least one direction along the longitudinal axis.
- [c3] 3. A structural brace apparatus according to claim 1 further comprising a base attachment member adjacent to either of said first support arm opposite of said slidable engagement or said second support arm opposite of said slidable engagement, wherein said base attachment member is operable to secure either of said first support arm to the primary building component or said second support arm to the secondary building component.
- [c4] 4. A structural brace apparatus according to claim 3 wherein said base attachment member is affixed to either of said first support arm or said second support arm.
- [c5] 5. A structural brace apparatus according to claim 3 wherein said base attachment member is integral to either of said first support arm or said second support arm.
- [c6] 6. A structural brace apparatus according to claim 1 fur-

ther comprising a pair of base attachment members adjacent to each of said first support arm opposite of said slidable engagement and said second support arm opposite of said slidable engagement, wherein said base attachment members are operable to secure said first support arm to the primary building component and said second support arm to the secondary building component.

- [c7] 7. A structural brace apparatus according to claim 6 wherein said base attachment members are affixed to said first support arm and said second support arm.
- [c8] 8. A structural brace apparatus according to claim 6 wherein said base attachment members are integral to said first support arm and said second support arm.
- [c9] 9. A structural brace apparatus according to claim 1 wherein said intermediate angle is about forty five (45) degrees from the X axis deflection.
- [c10] 10. A structural brace apparatus according to claim 9 further comprising a base attachment member oriented at about forty five (45) degrees extended from the longitudinal axis adjacent to either of said first support arm opposite of said slidable engagement or said second support arm opposite of said slidable engagement,

wherein said base attachment member is operable to secure either of said first support arm to the primary building component or said second support arm to the secondary building component.

- [c11] 11. A structural brace apparatus according to claim 10 wherein said base attachment member is affixed to either of said first support arm or said second support arm.
- [c12] 12. A structural brace apparatus according to claim 10 wherein said base attachment member is integral to either of said first support arm or said second support arm.
- [c13] 13. A structural brace apparatus according to claim 9 further comprising a pair of base attachment members oriented at about forty five (45) degrees extended from the longitudinal axis adjacent to each of said first support arm opposite of said slidable engagement and said second support arm opposite of said slidable engagement, wherein said base attachment members are operable to secure said first support arm to the primary building component and said second support arm to the secondary building component.
- [c14] 14. A structural brace apparatus according to claim 13

wherein said base attachment members are affixed to said first support arm and said second support arm.

- [c15] 15. A structural brace apparatus according to claim 13 wherein said base attachment members are integral to said first support arm and said second support arm.
- [c16] 16. A structural brace apparatus according to claim 1 wherein said first support arm is secured to the to the primary building component by fasteners.
- [c17] 17. A structural brace apparatus according to claim 1 wherein said second support arm is secured to the secondary building component by fasteners.
- [c18] 18. A structural brace apparatus adapted to provide flexible support between a primary building component and a secondary building component, the primary building component having X axis and Y axis deflections relative to the secondary building component, comprising:
 - (a) a first support arm constructed of sheet stock having a longitudinal axis with opposite outer first and second edge margins substantially parallel to the longitudinal axis, said first support arm extending from and adapted to be secured to the primary building component, the first support arm longitudinal axis being positioned at an intermediate angle between the primary building com-

ponent X axis and Y axis deflections; and

(b) a second support arm constructed of sheet stock with opposite outer third and fourth edge margins substantially parallel to the longitudinal axis, said second support arm extending from and adapted to be secured to the secondary building component, said second support arm has a slidable engagement with said first support arm for reciprocative movement substantially parallel to the first support arm longitudinal axis, the reciprocative movement is relative to said first support arm, wherein said structural brace apparatus is operative to reduce transmission of the X and Y axis deflections from the primary building component to the secondary building component.

- [c19] 19. A structural brace apparatus according to claim 18 wherein said sheet stock material is steel.
- [c20] 20. A structural brace apparatus according to claim 18 wherein said slidable engagement is constructed of a plurality of inwardly extending fingers such that at least one finger extends from said first support arm first edge margin and slidably engages said second support arm and said third edge margin.
- [c21] 21. A structural brace apparatus according to claim 20 wherein said plurality of fingers contact from said first

support arm and second support arm such that a retainer is created to prevent said first support arm and said second support arm from axially disengaging from one another in at least one direction along the longitudinal axis.

- [c22] 22. A structural brace apparatus according to claim 18 wherein said slidable engagement is constructed of a plurality of inwardly extending fingers such that at least one finger extends from said first support arm second edge margin and slidably engages said second support arm and said fourth edge margin.
- [c23] 23. A structural brace apparatus according to claim 22 wherein said plurality of fingers contact from said first support arm and second support arm such that a retainer is created to prevent said first support arm and said second support arm from axially disengaging from one another in at least one direction along the longitudinal axis.
- [c24] 24. A structural brace apparatus according to claim 18 wherein said slidable engagement is constructed of a plurality of inwardly extending fingers such that at least one finger from said second support arm third edge margin and slidably engages said first support arm and said first edge margin.

- [c25] 25. A structural brace apparatus according to claim 18 wherein said slidable engagement is constructed of a plurality of inwardly extending fingers such that at least one finger from said second support arm fourth edge margin slidably engages said first support arm and said second edge margin.
- [c26] 26. A structural brace apparatus according to claim 18 further comprising a base attachment member adjacent to either of said first support arm opposite of said slidable engagement or said second support arm opposite of said slidable engagement, wherein said base attachment member is operable to secure either of said first support arm to the primary building component or said second support arm to the secondary building component.
- [c27] 27. A structural brace apparatus according to claim 26 wherein said base attachment member is affixed to either of said first support arm or said second support arm.
- [c28] 28. A structural brace apparatus according to claim 26 wherein said base attachment member is integral to either of said first support arm or said second support arm.
- [c29] 29. A structural brace apparatus according to claim 18

further comprising a pair of base attachment members adjacent to each of said first support arm opposite of said slidable engagement and said second support arm opposite of said slidable engagement, wherein said base attachment members are operable to secure said first support arm to the primary building component and said second support arm to the secondary building component.

- [c30] 30. A structural brace apparatus according to claim 29 wherein said base attachment members are affixed to said first support arm and said second support arm.
- [c31] 31. A structural brace apparatus according to claim 29 wherein said base attachment members are integral to said first support arm and said second support arm.
- [c32] 32. A structural brace apparatus according to claim 18 wherein said intermediate angle is about forty five (45) degrees from the X axis deflection.
- [c33] 33. A structural brace apparatus according to claim 32 further comprising a base attachment member oriented at about forty five (45) degrees extended from the longitudinal axis adjacent to either of said first support arm opposite of said slidable engagement or said second support arm opposite of said slidable engagement,

wherein said base attachment member is operable to secure either of said first support arm to the primary building component or said second support arm to the secondary building component.

- [c34] 34. A structural brace apparatus according to claim 33 wherein said base attachment member is affixed to either of said first support arm or said second support arm.
- [c35] 35. A structural brace apparatus according to claim 33 wherein said base attachment member is integral to either of said first support arm or said second support arm.
- [c36] 36. A structural brace apparatus according to claim 32 further comprising a pair of base attachment members oriented at about forty five (45) degrees extended from the longitudinal axis adjacent to each of said first support arm opposite of said slidable engagement and said second support arm opposite of said slidable engagement, wherein said base attachment members are operable to secure said first support arm to the primary building component and said second support arm to the secondary building component.
- [c37] 37. A structural brace apparatus according to claim 36

wherein said base attachment members are affixed to said first support arm and said second support arm.

- [c38] 38. A structural brace apparatus according to claim 36 wherein said base attachment members are integral to said first support arm and said second support arm.
- [c39] 39. A structural brace apparatus according to claim 18 wherein said first support arm is secured to the to the primary building component by fasteners.
- [c40] 40. A structural brace apparatus according to claim 18 wherein said second support arm is secured to the secondary building component by fasteners.
- [c41] 41. A method of installing a structural brace apparatus between a primary building component and a secondary building component, the primary building component having X and Y axis deflections relative to the secondary building component, wherein said structural brace apparatus is operational to reduce transmission of the X and Y axis deflections from the primary building component to the secondary building component, comprising the steps of:
 - (a) providing a structural brace apparatus, including a first support arm and a second support arm, wherein said first support arm and said second support arm have

a slidable engagement, said first support arm is adapted to be secured to the primary building component opposite of said slidable engagement and said second support arm is adapted to be secured to the secondary building component opposite of said slidable engagement;

(b) estimating the primary building component X axis deflection and the primary building component Y axis deflection relative to the secondary building component;

(c) securing said first support arm opposite of said slidable engagement to the primary building component at an angle intermediate to the primary building component X and Y axis deflections; and

(d) securing said second support arm opposite of said slidable engagement to the secondary building component.

[c42] 42. A method of installing a structural brace apparatus according to claim 41 wherein said step of securing said first support arm to the primary building component is accomplished by securing said first support arm at an angle of about forty five (45) degrees from the X axis deflection.